GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

STARRED QUESTION NO:29
ANSWERED ON:02.03.2005
APPLICATION OF BIO-TECHNOLOGY
Patil Shri Shriniwas Dadasaheb

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the steps taken by the Union Government for application of bio-technology in the field of agriculture, health sector and industry;

(b) whether the Government proposes to set up bio-technology parks in various parts of the country on the lines of IT parks;

(c) if so, the details thereof;

(d) whether a comprehensive policy regarding use of bio-technology has been prepared by the Government; and

(e) if so, the details thereof?

Answer

MINISTER OF STATE (INDEPENDENT CHARGE) OF THE MINISTRY OF SCIENCE & TECHNOLOGY AND MINISTER OF STATE (INDEPENDENT CHARGE) OF THE DEPARTMENT OF OCEAN DEVELOPMENT (SHRI KAPIL SIBAL)

(a) to (e) A Statement is laid on the Table of the House.

STATEMENT IN RESPECT OF LOK SABHA STARRED QUESTION NO. 29 TO BE ANSWERED ON 02.03.2005 REGARDING APPLICATION OF BIO-TECHNOLOGY

(a) The Union Government has taken a number of steps to promote application of biotechnology in the fields of agriculture, healthcare, and industrial application. The Department of Biotechnology (DBT) established as an independent Department of the Ministry of Science and Technology in 1986 has been given the mandate for promotion and development of biotechnology. Besides DBT, the Department of Science and Technology (DST), the Council for Scientific and Industrial Research (CSIR), the Indian Council of Medical Research (ICMR) and the Indian Council of Agriculture Research (ICAR) also support programmes in application of biotechnology. The special emphasis has been on human resource development, creation and strengthening of infrastructure, promotion of R&D programmes, development of products/processes, creation of awareness, promotion of public-private partnership, enhancing capacity for technology transfer and commercialization, streamlining of regulatory mechanism and effective management of intellectual property.

In agriculture the emphasis of R&D activities has been on improving productivity of crops, reducing losses due to biotic and abiotic stresses and improving nutritional quality of food crops, through marker aided selection and transgenics. Biofertilizer and biopesticide formulations have been developed and commercialized.

In the area of healthcare, the thrust has been on the development of new vaccines and diagnostics for major diseases affecting the human population and livestock. The new generation vaccines, diagnostic kits and therapeutics developed are likely to effect a major shift in the healthcare strategy for prevention, early detection and treatment of diseases. New vaccines/constructs have been developed indigenously and are in clinical trials. Some examples are rota-viral vaccine for childhood diarrhoea, vaccines for cholera, anthrax, rabies and malaria. A number of diagnostics for HIV, Japanese Encephalitis, Hepatitis A and B and Dengue have been developed and transferred to the industry. Stem cell technology has begun to be used for the treatment of ocular and cardiac disorders. Sixteen human genetic diagnosis-cum-counselling units have been established in various parts of the country. More than 20,000 families have benefited by these units so far.

In the area of industrial biotechnology, a number of products and processes have been developed. 17 products are already in the market. With approximately 200 industries, the investment in Biotech industries in the last four years has recorded a compound annual growth rate of 50% and the turn over has grown by 39% last year.

(b)&(c) The models for setting up of Biotech Park are different from the IT Parks. The DBT, to begin with, has supported one Biotech Park at Lucknow and an incubation center at Hyderabad to study the feasibility of the programme. The experience has been helpful in conceiving more Parks and incubator facilities which has also been kindly agreed to by the Planning Commission. The support from the DBT to the different Biotech Parks is for varied activities based on the scientific capacity and strength of local institutions and industry.

(d)&(e) The Government earlier had a Biotechnology Vision which was in the form of a policy guideline. Now, the Department is preparing the Biotechnology Development Strategy, a comprehensive road map for addressing cross-cutting issues related to human

resource development, infrastructure strengthening, promotion of industry and trade, setting up of biotech parks, regulatory mechanism and public awareness, and an action plan for specific sub-sectors. The strategic action plan will direct the future priorities and activities in different sectors of biotechnology. The draft document is ready and is at present being discussed with experts before finalisation. A public announcement would be made shortly.